ART. 8. SYSTEMATIC NOTES ON NORTH AMERICAN BIRDS

2. The Waterfowl (Anatidae)

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This is the second of a series of papers on the systematics and nomenclature of certain North American birds. A general introduction and acknowledgments for the series as a whole will be found in the first paper (Parkes, 1955c).

The waterfowl have long been among the most popular birds, and there has been a recent renewal of interest in their classification. The now classic paper by Delacour and Mayr (1945), in which a radically new alinement of the swans, geese and ducks was proposed, may be regarded as a major turning-point in waterfowl taxonomy. Most of the changes from the traditional classification employed by Peters (1931), even though sometimes quite drastic, have been accepted by most students of this family. In the decade since the revised classification of the waterfowl appeared, many papers have been published which supplement or correct some of the statements made by Delacour and Mayr, or take issue with them on specific points. Differences of opinion are to be expected among taxonomists, and Delacour and Mayr would be the last to claim that theirs was the final word. In general, however, it may be said that our knowledge of the systematics of the waterfowl, when compared with other bird families of similar size, is exceptionally thorough.

Special mention must be made of the work of Verheyen, who has taken sharp issue with Delacour and Mayr, and proposed his own classification of the waterfowl (summarized in Verheyen, 1955b) based primarily on comparative osteology. A thorough critique of Verheyen's work may be accomplished only by a comparative anatomist. It is quite apparent, however, that Verheyen has fallen victim to the tendency described by Simpson (1945, p. 23) as "the tendency to raise the ranks of groups without need, that is, without gaining any practical advantage. One of the more evident symptoms of this tendency is the appearance of many monotypic groups in classification. If a classifier makes mostly monotypic families, genera, etc., it is a fair statement that he is giving family rank to what should be called genera, generic rank to species, etc." That this is descriptive of Verheyen's classification is made plain when it is pointed out that he has divided the relatively homogeneous family Anatidae into *sixteen* families, no less than six of which are erected to include a single species!

Brief mention should also be made of the work of Yamashina (1952), who proposed a classification of the Anatidae based entirely on cytological and hybrid sterility data. Although he examined only fifty species, his classification agrees in many respects with that of Delacour and Mayr. Yamashina, however, has "lumped" genera to an even greater extent than did Delacour and Mayr, and his classification represents the opposite extreme in taxonomic practice from that of Verheyen.

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Since the appearance of the first paper in the present series, the long-awaited fifth edition of the American Ornithologists' Union "Check-list of North American birds" has been published (1957). The classification of waterfowl employed by the A.O.U. is a conservative one, based chiefly on that of Peters (1931). Reference will be made beyond to some of the questions on which I feel that the A.O.U. Check-list is conservative to the point of being reactionary.

1. The Swans

The classification of the swans hinges on the relative importance assigned to certain osteological features. Although Delacour and Mayr (1945) omitted all reference to the striking internal differences among these superficially similar birds, these structural features are described in Delacour's recent book (1954, p. 57, 71). Wetmore (1951) believed that two genera should be recognized; *Cygnus* for those species in which the trachea passes directly into the thorax without entering the sternum, and *Olor* for those in which the trachea loops into the sternum, the furculum being modified at the symphysis to accommodate this loop. In addition to these major anatomical features, the two genera may be separated by certain relatively minor external characters, such as the cuneate tail of *Cygnus* versus the rounded tail of *Olor*. The two groups also differ in behavior patterns, and it seems worth while to follow Wetmore in recognizing two genera.

There are also two schools of thought regarding specific limits within the genus *Olor*. Delacour and Mayr (1945, p. 8) followed the suggestion of Hartert (1920, p. 1275) that the New World *O. columbianus* and *O. buccinator* be considered conspecific with the Old World *O. bewickii* and *O. cygnus*, respectively. In the case of the Whistling Swan (*O. columbianus*), such action is justifiable. A glance at the range map published by Delacour (1945, p. 84-85) shows that the New World *columbianus* and the two Old World forms *bewickii* and *jankowskii* are obvious geographic representatives, differing slightly in size and conspicuously in the relative amount of yellow at the base of the bill. All three are highly migratory Arctic nesters. I therefore agree that these two Old World forms should be considered subspecies of *Olor columbianus*.

The second case, that of *O. buccinator* and *O. cygnus*, is quite different. Here Wetmore (1951) and Delacour (1954, p. 71) differ on a question of fact rather than merely on interpretation of accepted facts. Wetmore recognized the subgenus *Clangocycnus* Oberholser for the Trumpeter Swan, *O. buccinator*, basing this on the fact that in this species the trachea makes "a dorsal loop as it enters sternum, protected by a bony case that projects into the anterior end of the body cavity." Delacour (1954, p. 71) claims that this is also true of the Whooper Swan, *O. cygnus*, which he therefore combined with *buccinator* as a single species. Wetmore, on the other hand, placed *cygnus* in the typical subgenus *Olor*. I have examined sterna of the swans in question, and find that Wetmore is correct; the sternum of *O. cygnus* does *not* have the enlarged "bony case" typical of *O. buccinator*, but is somewhat intermediate toward that of *O. columbianus*. This is illustrated by Schiφler (1925, pl. 65).

As mentioned above, *Olor columbianus* and *O. bewickii* are clearly geographic representatives of one another. This can not be said for *O. buccinator* and *O. cygnus*. The Whooper Swan is primarily an Arctic nester, although it does extend into central Asia. It is strongly migratory. The Trumpeter Swan, on the other hand, is decidedly a bird of temperate regions, and is relatively sedentary.

The Whooper Swan resembles Bewick's Swan in having a large area of yellow at the base of the bill, a feature of which there is no hint in the Trumpeter Swan. The total of the evidence seems to suggest that *Olor cygnus* is a larger derivative of the same stock which gave rise to the *O. columbianus* group, and is no more than generically related to *O. buccinator*. I believe, therefore, that the two North American swans should be known as *Olor columbianus columbianus* (Ord) and *Olor buccinator* (Richardson), respectively. This differs from the current treatment in the A.O.U. Check-list only in considering the Whistling Swan to be the New World representative of a polytypic species.

2. The genus Branta

Verheyen (1955a, p. 9) has introduced into the literature the name *Eubranta*, apparently as a new genus intended to include the Barnacle Goose, *Branta leucopsis*, and the Red-breasted Goose, *B. ruficollis*. He gives no diagnosis of this new genus, apparently basing it primarily on the fact that these two species have, on the average, two less vertebrae (one cervical, one sacral) than do *B. bernicla* and *B. canadensis*. Verheyen also neglected to designate a type species for *"Eubranta"*. Even if the segregation of these two species as a separate genus from *Branta* were warranted, which I do not believe, the introduction of a new generic name was completely unnecessary. Both of thse species, according to the synonymies presented by Hellmayr and Conover (1948, p. 294-295), have been named as monotypes of new genera; *Leucopareia* Reichenbach, 1852, for *leucopsis*, and both *Rufibrenta* Bonaparte, 1856, and *Ptocas* Heine, 1890, for *ruficollis*. In order to allocate the name *Eubranta* Verheyen, 1955, I here designate its type as *Anas leucopsis* Bechstein, and thus place it as an absolute synonym of *Leucopareia* Reichenbach, 1852, a genus currently believed inseparable from *Branta* Scopoli, 1769.

A brief distributional note on the Canada Goose may well be placed here. Hanson and Smith (1950, p. 76-77) believed southern New Jersey to be the northernmost part of the Atlantic coast reached by migrating and wintering *Branta canadensis interior* Todd. The A.O.U. Check-list (1957, p. 61) goes even further, stating "Not recorded from the Atlantic coast north of Maryland". However, I have examined three specimens of this race from Montauk Point, Long Island, N. Y., in the collection of the American Museum of Natural History (A.M.N.H. 350131, December 3, 1909; A.M.N.H. 350133 and 350134, March 14, 1902). Hellmayr and Conover (1948, p. 305) listed a specimen in the Chicago Natural History Museum from Rockaway Beach, Queens County, New York.

3. The genus Chen

The status of the Blue and Snow geese, long one of the most difficult questions in systematic ornithology, has been under investigation for some

years by Graham Cooch, and I do not venture to discuss the matter here. I can not, however, refrain from stating that I can see no justification for the continued recognition of the Blue Goose, *Chen caerulescens,* as a separate species in the A.O.U. Check-list (1957). Whether the relationship of the Blue and Lesser Snow geese is best expressed by calling them subspecies or color phases will be determined by specialists in this group, but to call these two forms separate species is to ignore half a century of progress in the study of evolution.

Many modern authors include *Chen* in an expanded genus *Anser.* This is entirely a matter of subjective preference as to size and scope of genera, since the two are undeniably closely related.

4. Anser albifrons

Delacour (1954, p. 110, and personal communication) has stated that all records known to him of presently existing specimens of White-fronted Geese along the east coast of North America pertain to the Greenland race, *Anser albifrons flavirostris* Dalgety and Scott. One of the most striking characteristics of this race is the possession of an orange-yellow rather than a pink bill. Stoner (1944) published the details of a specimen killed near Rouses Point, Lake Champlain, N. Y., on October 22, 1943. Although the specimen was not preserved, both measurements and color notes were taken. The description of the bill as "pink" precludes the identification of this specimen as *flavirostris.* The measurements indicate that it was neither the small European *A. a. albifrons* nor the very large far western *A. a. gambelli.* This leaves, by elimination, *A. a. frontalis,* the common White-fronted Goose of western North America, which migrates chiefly west of the Mississippi. An occasional eastern stray of this form would hardly be surprising.

I have examined the series of European specimens of *Anser albifrons* mentioned by Todd (1950, p. 64). Comparing four from Holland with eight from Austria, Montenegro and Albania, Todd wrote that the former "differ in the darker, browner coloration of their upper parts and wings and in the more brownish suffusion of the neck and under parts generally. The significance of this variation I do not presume to explain beyond suggesting that, since it cannot be seasonal, it could be racial." Although not directly pertinent to a North American bird, this matter may appropriately be settled in the present discussion of the species involved. The color differences between the two series noted by Mr. Todd may be easily explained, and have nothing to do with geographic variation. The Holland birds were collected in 1892 and 1900, and are foxed and stained. The others were collected in 1929 and 1932, are clean specimens, and have never been on exhibition as the Holland birds were.

5. The Mallard and its relatives

In an earlier paper (Parkes, 1954, p. 152) I commented on a statement made by Delacour and Mayr (1945, p. 21) who wrote that "it seems obvious that the Mexican and Black Ducks (*diazi* and *rubripes)* are only subspecifically distinct from the Dusky Duck (*fulvigula*)." Delacour and Mayr united these three forms under *fulvigula,* the oldest name. My comments were as follows: "It is my belief that the case is by no means so 'obvious'.

The Mexican Duck, *Anas diazi,* is so close to the Mallard, *A. platyrhynchos,* that a case might be made for considering it a rather restricted 'hen-feathered' subspecies of Mallard, except that *diazi* and *platyrhynchos* are sympatric (Lindsey, 1946, p. 484). A comparatively recent origin of *diazi* from *platyrhynchos* is suggested by the high frequency of hybridization (Lindsey, 1946, p. 484)." I then went on to point out that the Dusky Duck, *A fulvigula,* is in many respects about midway between the Mallard and the Black Duck.

Delacour himself apparently came to doubt the "obvious" conspecificity of *rubripes, diazi* and *fulvigula.* In his recent book (Delacour, 1956) he unites the latter two forms with *platyrhynchos,* allowing *rubripes* to stand as a full species. He gives no references to support this treatment, nor does he explain his own change of mind. The range map (on page 41 of his book) does not show the overlap of the breeding ranges of *diazi* and *platyrhynchos.* He states that "They [*diazi*] do not seem to mix with wintering Mallards which are often found at the same localities during the winter", a statement completely at variance with the New Mexico observations of Lindsey (1946). He mentions the fact that drakes of *diazi* "sometimes have more or less curled up central tail feathers and traces of bright colours . . . thus showing a close relationship to the common Mallard." He gives no indication as to whether such birds are ever found outside the area of overlap of *diazi* and *platyrhynchos,* nor does he even mention the hybridization described by Lindsey and mentioned in the A.O.U. Check-list (1957, p. 72). The treatment of the Dusky Duck (*fulvigula*), now called Florida Duck by Delacour, is equally scanty and devoid of explanation. At present I can see no compelling reason to alter my statement of 1954 that "All in all, I prefer to consider the Mallard, Black Duck, Dusky Duck and Mexican Duck as specific entities."

6. The Green-winged Teal

The conservatism of the A.O.U. Check-list is nowhere illustrated better than by its persisting in giving full specific rank to the American Green-winged Teal (*Anas carolinensis*). This provincial viewpoint has been abandoned by virtually all students of waterfowl the world around. As is well known, the females of the American and the European (*A. crecca*) Green-winged Teal are virtually indistinguishable. The two are geographic representatives, but individual birds of each of the races occasionally stray within the range of the other. Hybridization among ducks is so common, of course, that it can not be used as a sole criterion of conspecificity, but it is interesting to note that Cruickshank (1936) and Poole (1940) have described apparent hybrids or intergrades between *carolinensis* and *crecca.* (See Parkes, 1955b, p. 38, for further discussion of this case.) There are no behavioral characters, often useful in duck classification, to separate the two forms. The American Green-winged Teal should be known as *Anas crecca carolinensis* Gmelin.

7. The Shovellers

Delacour and Mayr (1945, p. 17) and Delacour (1956, p. 19) have re-emphasized the extremely close relationship among the four shovellers (*"Spatula"*) and the three blue-winged "teal" (*"Querquedula"*). They make

the interesting and, to me, highly plausible suggestion that "the shoveller group is polyphyletic, owing its origin to the repeated development of large-sized and large-billed species from the original blue-winged duck stock" (Delacour and Mayr, 1945, p. 17). Oliver (1954, p. 193) objected to this idea, with its necessary corollary of combining *"Spatula"* with *Anas* (including *"Querquedula"*). Oliver's full statement is as follows: *"Spatula* differs from *Anas* in important bill characters and consists of closely related species occupying different continents. *This shows* [italics mine] that the species have not risen independently in each continent from different species of *Anas. Spatula* is so different from *Anas* that its union with that genus would cover up an important morphological characteristic and make *Anas* indefinable. It certainly should be kept as a genus distinct from *Anas."* This treatment is adopted by the conservative A.O.U. Check-list (1957), which interposes the widgeons (*"Mareca"*) between the Shoveller and its closest relatives, the Blue-winged Teal and Cinnamon Teal, included in *Anas* by the A.O.U. Check-list. Meinertzhagen (1951, p. 444) pursues the concept of monophyletic origin of the shovellers to the ultimate extreme, and makes all of them subspecies of *Spatula clypeata!*

As amply shown by Delacour and Mayr, the shovellers and the blue-winged "teal", taken together, constitute a well-knit group within the expanded genus *Anas*. Extreme variation in bill size notwithstanding, these ducks are obviously more closely related to one another than any is to the rest of the genus *Anas*. This is supported by plumage pattern, feeding habits, courtship display, and, to some extent, voice. Two wild-taken hybrids between *Anas* (*"Spatula"*) *clypeata* and *A.* (*"Querquedula"*) *discors* have been described by Childs (1952). I saw what appeared to be such a bird myself at the Montezuma Federal Waterfowl Refuge, in central New York, on October 11, 1952. Delacour (1956, p. 182-183) makes the interesting point that such hybrids are extremely similar in appearance to the Australian Shoveller (*A. rhynchotis*).

In order, then, to justify retention of the genus *Spatula* for the four shovellers, Oliver (and presumably the A.O.U. Check-list) must rely entirely on the shape of the bill, a notoriously unreliable character in avian taxonomy at generic and higher levels. The geographic distribution of the shovellers (one holarctic, three in the Southern Hemisphere) and the remarkable similarity in color and plumage between the Cinnamon Teal (*cyanoptera*) and the South American Shoveller (*platalea*), and between the Blue-winged Teal (*discors*) and the Australian Shoveller (*rhynchotis*), are strong evidence in favor of independent origin of shovellers from blue-winged duck stock in at least three different cases. Such a polyphyletic origin would, of course, preclude segregation of the large-billed forms as a genus *Spatula,* much less combining them all as subspecies of *Spatula clypeata.* The Cape Shoveller (*Anas smithi* = *Spatula capensis* of authors) is a somewhat different case. This African species is virtually a "hen-feathered" version of the holarctic *A. clypeata,* and may well be derived from the latter species, which migrates to Africa. These two could be considered to constitute a superspecies; the "shoveller" bill would then have been independently derived only three times.

8. The Greater Scaup

Witherby *et al.* (1939, p. 308), Scott (1949, caption to plate XV), and some other authors have cast doubt on the validity of the New World subspecies of the Greater Scaup, *Aythya marila nearctica* Stejneger. With this in mind I examined the extensive series of this species in the American Museum of Natural History, and found that *nearctica* is readily recognizable by the coarse black barring of the upper parts, exactly as characterized by Hellmayr and Conover (1948, p. 371, footnote). The geographically intermediate *A. m. mariloides* (Vigors) of eastern Asia is somewhat intermediate in color between *marila* and *nearctica,* but is smaller than either. (For measurements, see Hartert, 1920, p. 1344.)

9. The Spectacled Eider

The fifth edition of the A.O.U. Check-list (1957, p. 91) places the Spectacled Eider in the genus *"Lampronetta"*. In the thirty-first supplement to the fourth edition of the Check-list (Wetmore *et al.,* 1956, p. 448), the proposed change from *Arctonetta* Gray, 1856, as used in the fourth edition, to *Lampronetta* Brandt, 1847, was announced. The reference cited for this change was a paper of mine (Parkes, 1955a). It is true that in this paper I pointed out that *Lampronetta* antedated *Arctonetta.* However, my wording was intended to make it plain that I was certainly not advocating the continued recognition of a monotypic genus for the Spectacled Eider under *any* name; I pointed out that this species possesses no trenchant characters to separate it from *Somateria,* and mentioned the priority of *Lampronetta* over *Arctonetta* to indicate that a name change for this species was inevitable in any case. Lest the citation of my paper in connection with the change in A.O.U. usage be misleading, I wish to reiterate my firm belief that the Spectacled Eider can not be separated from the genus *Somateria.*

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